

Evaluation of the Current Situation of COVID-19, and the Development of Surveillance and Medical Systems in Japan

February 7, 2020

National Institute of Infectious Diseases

National Center for Global Health and Medicine, Disease Control and Prevention Center

■ Evaluation of the Current Situation

In the early hours of January 31 (Japan time), the Emergency Committee of the World Health Organization (WHO) declared that the situation surrounding the outbreak of COVID-19 infected pneumonia constitutes a “Public Health Emergency of International Concern (PHEIC)” in view of the situation that a total of 7,711 cases (including 1,370 severe cases [18%] and 170 deaths [2%]) have been reported from all provinces in China, and that it had spread to 18 other countries than China with a total of 83 cases as of January 30.¹⁾

Limited epidemiological information has been accumulated about COVID-19 detected in Wuhan, China. According to the WHO, the incubation period ranges from 2 to 12.5 days²⁾ and human-to-human transmission cases have been reported, also outside China. The symptoms vary widely, from mild to severe. As of February 4, the following cases have been reported in China: 6,384 cases including 313 deaths (4.9%) in Wuhan and 14,136 cases including 113 deaths (0.8%) in China (excluding Wuhan), which indicate a high mortality rate in Wuhan.³⁾ COVID-19 cases have been reported in 30 provinces and cities other than Hubei Province, where Wuhan is located,⁴⁾ but no information on community outbreaks in other Chinese cities than Wuhan has been obtained. According to the WHO, 159 cases (including one death) have been reported in 23 countries worldwide, outside China.⁴⁾

Detailed information about the mode of transmission and the infectious period is important to determine the domestic response measures, but sufficient knowledge has not been obtained at this time. As of February 1, the WHO has stated that the primary transmission is through coughing and sneezing by infected persons, and that transmission from asymptomatic persons, although it has been reported,⁵⁾ is not the primary route.⁶⁾ It is important to implement basic infection prevention measures, such as cough etiquette and hand hygiene.

With respect to nosocomial infections in Wuhan, the Western Pacific Regional Office of the WHO mentioned on January 21, for the first time, infections among healthcare professionals. The papers described that the reported cases included healthcare professionals,⁷⁾ but no detailed information about the mode of transmission was obtained. In addition, cases of infection in family clusters have been reported in and outside China.⁸⁾

As of February 4, 16 cases of patients and 4 asymptomatic pathogen carriers have been identified in Japan.⁹⁾

■ Domestic Response

On February 1, COVID-19 was designated as a “designated infectious disease” under the Infectious Disease Law and a “quarantine infectious disease” under the Quarantine Act, allowing the government to hospitalize patients with suspected or confirmed infection and to use public funds to cover the related medical expenses, and conduct medical examinations, tests, etc. for quarantine purposes.

- ◆ Case detection system: With respect to COVID-19 in Japan, a government ordinance was

issued to designate it as a “designated infectious disease” under the Infectious Disease Law and a “quarantine infectious disease” under the Quarantine Act and it was enforced on February 1. COVID-19 cases should be detected in accordance with the notification criteria, (<https://www.mhlw.go.jp/content/10900000/000592718.pdf>). The points of difference from and relation with the suspected disease surveillance that had been used until January 31 (suspected diseases stipulated by the MHLW Ordinance under Article 14, Paragraph 1 of the Infectious Disease Law) are as follows:

- An increasing number of cases of COVID-19 have been reported in China, even outside Wuhan. For this reason, in the notification criteria for the designated infectious diseases, “travel history to Wuhan” has been changed to “travel history to endemic area*” to be able to respond to occurrences both in and outside China (*As of February 6, Hubei Province, China);
 - Considering the possibility that the novel coronavirus may be imported into Japan from endemic areas as mild cases, the requirements assume a history of contact with mild cases; and
 - Those to be reported under the surveillance system for “Unidentified Serious Infectious Illness” (stipulated by the MHLW Ordinance described in Article 14, Paragraph 1 of the Infectious Disease Law) need identification of COVID-19, which has also been included under designated infectious diseases. A patient with severe infection for whom identification of COVID-19 is considered necessary can now be notified as a suspected disease carrier of the novel coronavirus irrespective of travel history.
- ◆ For the active detection of COVID-19 cases, “Guidelines for Conducting an Active Epidemiological Survey for COVID-19 patients (provisional version)” and “Survey Sheet” have been prepared. See the following figure for the flow of handling of patients with suspected COVID-19.
 - ◆ Test system: At first, based on the genome information disclosed by China, preparations were made to conduct conventional PCR at the National Institute of Infectious Diseases (NIID) to respond to the tests. In addition, the NIID distributed reagents on January 23 so that local health institutes can conduct conventional PCR. On January 24, the test system based on the real-time PCR method, which had been developed at the NIID, was completed, and the tests to be conducted at the NIID were changed to the real-time PCR method. Accordingly, reagents for real-time PCR were distributed to public health institutes and quarantine stations from January 30 to 31. The guidance on sample collection and transportation for the conduct of administrative inspections was published on the NIID website on January 21. The guidance on sample collection and transportation will be updated as necessary (last updated on February 6).
 - ◆ Medical system: The MHLW issued a notice to local governments to ensure that patients with suspected COVID-19 can be examined at medical institutions with a well-established treatment system, etc. by establishing the “Outpatient Services for Returnees and Contact Persons” (HSB Notification No. 0131-11, dated January 31, 2020).
 - ◆ Infection control for COVID-19 patients: See the “Infection Control for COVID-19” and response to novel coronavirus infection by the Japanese Society for Infection Prevention and Control.¹⁰⁾
 - ◆ Response to COVID-19 patients (including suspected cases) and asymptomatic carriers:

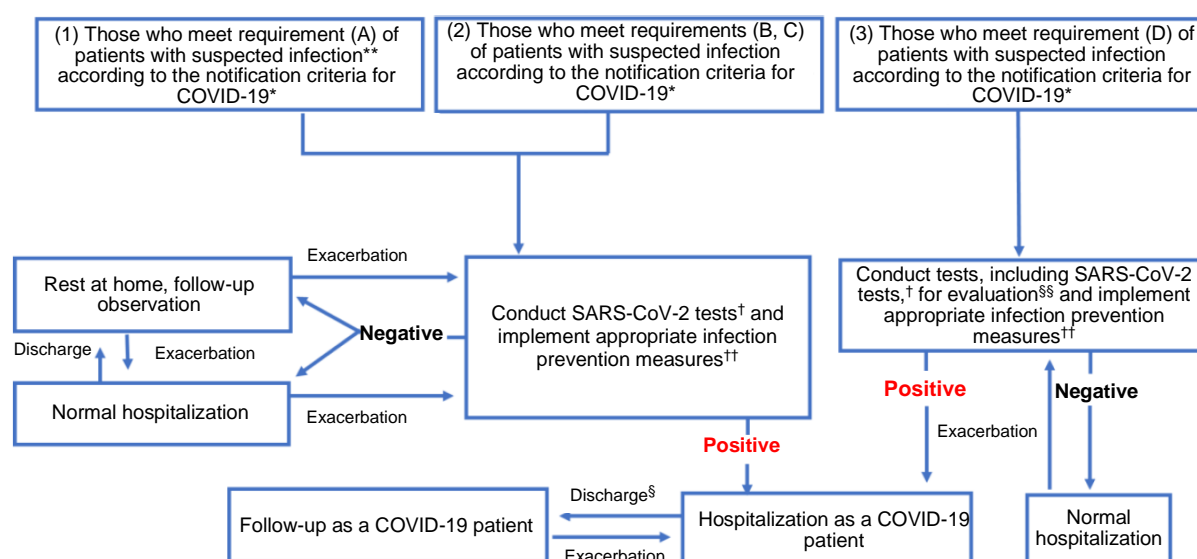
See the “Handling of Discharge from Hospital and Restrictions on Work Attendance of COVID-19 Patients under the Act on the Prevention of Infectious Diseases and Medical Care for Patients with Infectious Diseases” (HSB-IDCD Notification No. 0203-3, dated February 3, 2020).

- ◆ Discharge criteria: See the “Handling of Discharge from Hospital and Restrictions on Work Attendance of COVID-19 Patients under the Act on the Prevention of Infectious Diseases and Medical Care for Patients with Infectious Diseases” (HSB-IDCD Notification No. 0203-3, dated February 3, 2020).

Figure: Flow of the Handling of COVID-19 Patients

For the details of (A) to (D), see the website:

<https://www.mhlw.go.jp/content/10900000/000592718.pdf> (Japanese)



* See the Notification Criteria.

** See the Guidelines for Conducting an Active Epidemiological Survey for COVID-19 patients

† See the Manual for the Collection and Transportation of Samples of Suspected COVID-19 Patients.

†† See the Infection Control for COVID-19.

§ See the “Handling of Discharge from Hospital and Restrictions on Work Attendance of COVID-19 Patients under the Act on the Prevention of Infectious Diseases and Medical Care for Patients with Infectious Diseases.”

§§ See the surveillance system for “Unidentified Serious Infectious Illness” Operational Guidance (3rd edition).

- ◆ See the information provided by the MHLW to municipalities and medical institutions that is summarized on the following web page:
 - https://www.mhlw.go.jp/stf/seisakunitsuite/bunya/0000164708_00001.html (Japanese)
 - https://www.mhlw.go.jp/stf/seisakunitsuite/bunya/newpage_00032.html (English)

■ Action Required in the Future

The contents of this document will be updated as needed according to new knowledge of epidemiological information.

- ◆ Test system: In the future, the number of tests to be conducted at public health institutes is expected to increase. It is important to ensure the accuracy of tests at public health institutes. At present, information about samples suitable for testing is lacking, but the “Manual for Collection and Transportation of Samples from Suspected COVID-19 Patients” will be

updated according to changes in the handling of test samples and other circumstances. In the future, it is planned to build a system that enables private test companies to conduct tests.

- ◆ Response to non-epidemiologically linked confirmed patients and community outbreaks: Each local government should consider response measures, assuming that the import of the COVID-19 patients with mild symptoms into Japan may lead to confirmed patients who do not meet the designated infectious diseases case definition requirements, and may cause outbreaks of such viruses.
- ◆ Response to outbreaks at medical institutions: Each local government should consider response measures, assuming that, starting with COVID-19 that has not yet been detected, the infection may cause nosocomial outbreaks.
- ◆ Infection control: Necessary documents should be prepared according to new knowledge about nosocomial infections.
- ◆ Treatment guidelines for COVID-19 (severe patients): Given the lack of knowledge about specific treatments, it is necessary to collect information about treatments in foreign countries, to accumulate knowledge in Japan, and to establish treatment guidelines by appropriate members including infectious disease specialists and intensive care physicians.

References

- 1) WHO, Statement on the second meeting of the International Health Regulations (2005) Emergency Committee regarding the outbreak of novel coronavirus (2019-nCoV). January 31, 2020
[https://www.who.int/news-room/detail/30-01-2020-statement-on-the-second-meeting-of-the-international-health-regulations-\(2005\)-emergency-committee-regarding-the-outbreak-of-novel-coronavirus-\(2019-ncov\)](https://www.who.int/news-room/detail/30-01-2020-statement-on-the-second-meeting-of-the-international-health-regulations-(2005)-emergency-committee-regarding-the-outbreak-of-novel-coronavirus-(2019-ncov))
- 2) WHO, Q&A on coronaviruses, February 2, 2020
<https://www.who.int/news-room/q-a-detail/q-a-coronaviruses>
- 3) People's Daily Online, as of 18:00 on February 4, 2020
<http://health.people.com.cn/GB/26466/431463/431576/>
- 4) WHO, Situation report –13 Novel Coronavirus (2019-nCoV), February 3, 2020
https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200202-sitrep-13-ncov-v3.pdf?sfvrsn=195f4010_6
- 5) Transmission of 2019-nCoV Infection from an Asymptomatic Contact in Germany, NEJM January 30, 2020. DOI: 10.1056/NEJMc2001468
- 6) WHO, Situation report –12 Novel Coronavirus (2019-nCoV), February 1, 2020
https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200201-sitrep-12-ncov.pdf?sfvrsn=273c5d35_2
- 7) Early Transmission Dynamics in Wuhan, China, of Novel Coronavirus–Infected Pneumonia, NEJM January 29, 2020. DOI: <https://www.nejm.org/doi/full/10.1056/NEJMoa2001316>
- 8) A familial cluster of pneumonia associated with the 2019: novel coronavirus indicating person-to-person transmission: a study of a family cluster, Lancet January 24, 2020. DOI: [https://doi.org/10.1016/S0140-6736\(20\)30154-9](https://doi.org/10.1016/S0140-6736(20)30154-9)
- 9) Ministry of Health, Labour and Welfare, The current situation of novel coronavirus infection and response by MHLW (as of February 4, 2020) https://www.mhlw.go.jp/stf/newpage_09290.html (Japanese)
- 10) Japanese Society for Infection Prevention and Control, “Response to Novel Coronavirus (2019-nCoV) Infection” http://www.kankyokansen.org/modules/news/index.php?content_id=328 (Japanese)